Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Spinal surgery: average change between lumbar discectomy/laminotomy pre-operative and three months (6 to 20 weeks) post-operative functional status as measured with the Oswestry Disability Index, version 2.1a.

Source(s)

MN Community Measurement. Data collection guide: spinal surgery: functional status and quality of life outcome measures 2015 (01/01/2013 to 12/31/2013 dates of procedure). Minneapolis (MN): MN Community Measurement; 2015. 132 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Outcome

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the average change between lumbar discectomy/laminotomy pre-operative and three months (6 to 20 weeks) post-operative functional status as measured with the Oswestry Disability Index, version 2.1a.

Rationale

Overall, spine surgery rates have declined slightly from 2002 to 2007, but the rate of complex spinal fusion procedures has increased 15-fold, from 1.3 to 19.9 per 100,000 Medicare beneficiaries. Complications increased with increasing surgical invasiveness, from 2.3% among patients having decompression alone to 5.6% among those having complex spinal fusions. After adjustment for age, comorbidity, previous spine surgery, and other features, the odds ratio (OR) of life-threatening complications for complex spinal fusion compared with decompression alone was 2.95 (95% confidence

interval [CI], 2.50 to 3.49) (Deyo et al., 2010). Minnesota, as compared to national Medicare statistics, demonstrates a lumbar spinal fusion rate that is four times the national average (0.84 per 1000 enrollees as compared to 0.2 per 1000) (Center for the Evaluative Clinical Services, 2006). Spinal fusion has become one of medicine's most controversial procedures. Some surgeons argue that spinal fusion is appropriate only for a small number of conditions, such as spinal instability, spinal fracture or severe curvature of the spine and that the financial incentives have caused the procedure to become overused. Others say that it is a useful tool to treat patients who have debilitating back pain and have tried other options like physical therapy to no avail (Carreyrou & McGinty, 2010).

For consumers, there is a lack of publicly reported information that would provide patients with an understanding of potentially how well they will function after having lumbar spinal surgery. These measures will provide outcome data for patients that currently do not exist.

Evidence for Rationale

Carreyrou J, McGinty T. Top spine surgeons reap royalties, Medicare bounty. Wall Str J 2010 Dec 20.

Center for the Evaluative Clinical Services. The Dartmouth Atlas of Health Care: spine surgery. Lebanon (NH): The Dartmouth Institute for Health Policy and Clinical Practice; 2006. 28 p.

Deyo RA, Mirza SK, Martin BI, Kreuter W, Goodman DC, Jarvik JG. Trends, major medical complications, and charges associated with surgery for lumbar spinal stenosis in older adults. JAMA. 2010 Apr 7;303(13):1259-65. PubMed

MN Community Measurement. Data collection guide: spinal surgery: functional status and quality of life outcome measures 2015 (01/01/2013 to 12/31/2013 dates of procedure). Minneapolis (MN): MN Community Measurement; 2015. 132 p.

Primary Health Components

Spinal surgery; lumbar discectomy/laminotomy; functional status; Oswestry Disability Index

Denominator Description

Patients who meet each of the following criteria are included in the population:

- Patients age 18 years and older at the start of the procedure measurement period.
- Patients who underwent a lumbar discectomy/laminotomy procedure for a diagnosis of disc herniation with a procedure date between January 1 to December 31.
- Patient had a specific Current Procedural Terminology (CPT) procedure code.
- Include the patient in the lumbar discectomy/laminotomy population only if the specific CPT procedure code is the only spine procedure code used.
- Do not include the patient if they have an additional spinal procedure performed.
- Patient had the following International Classification of Diseases, Ninth Revision (ICD-9) diagnosis code: 722.10.

See the related "Denominator Inclusions/Exclusions" field.

Numerator Description

The change between pre-operative and three months (6 to 20 weeks) post-operative functional status for patients who undergo a lumbar discectomy/laminotomy procedure as measured with the Oswestry

Disability Index, version 2.1a. (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

MN Community Measurement (MNCM) conducts validity testing to determine if quality measures truly measure what they are designed to measure, and conducts reliability testing to determine if measures yield stable, consistent results. Validity testing is done to see if the concept behind the measure reflects the quality of care that is provided to a patient and if the measure, as specified, accurately assesses the intended quality concept. Reliability testing is done to see if calculated performance scores are reproducible.

Evidence for Extent of Measure Testing

MN Community Measurement. Measure testing. [internet]. Minneapolis (MN): MN Community Measurement; [accessed 2015 Nov 12].

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Clinical Practice or Public Health Sites

Statement of Acceptable Minimum Sample Size

Does not apply to this measure

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

Case Finding Period

The measurement period (January 1 to December 31)

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Patient/Individual (Consumer) Characteristic

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Patients who meet each of the following criteria are included in the population:

- Patients age 18 years and older at the start of the procedure measurement period.
- Patients who underwent a lumbar discectomy/laminotomy procedure for a diagnosis of disc herniation with the date of procedure between January 1 and December 31.
- Patient had a specific Current Procedural Terminology (CPT) procedure code (refer to the original measure documentation for specific CPT codes).
- Include the patient in the lumbar discectomy/laminotomy population only if the specific CPT procedure code is the only spine procedure code used (refer to the original measure documentation for specific CPT codes).
- Do not include the patient if they have an additional spinal procedure performed (refer to the original measure documentation for specific CPT codes).
- Patient had the following International Classification of Diseases, Ninth Revision (ICD-9) diagnosis code: 722.10. This diagnosis code can be in any position.

Exclusions
None

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
The change between pre-operative and three months (6 to 20 weeks) post-operative functional status for patients who undergo a lumbar discectomy/laminotomy procedure as measured with the Oswestry Disability Index, version 2.1a.

Note: *Oswestry Disability Index*: A patient completed survey consisting of 10 structured questions asking the patient to describe the impact of their low back pain and function in the following areas: pain, personal care, lifting, walking, sitting, standing, sleeping, sex life (if

applicable), social life, and ability to travel.

Exclusions
Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Electronic health/medical record

Paper medical record

Type of Health State

Functional Status

Instruments Used and/or Associated with the Measure

- Spinal Surgery Functional Status and Quality of Life Outcome Measures 2015 Measures Flow Chart - Lumbar Discectomy/Laminotomy
- Oswestry Disability Index (ODI) Version 2.1a

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Mean/Median

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Average change between pre-operative and three months (6 to 20 weeks) post-operative functional status as measured with the Oswestry Disability Index, version 2.1a.

Measure Collection Name

Spinal Surgery

Submitter

MN Community Measurement - Health Care Quality Collaboration

Developer

MN Community Measurement - Health Care Quality Collaboration

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

Unspecified

Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Jan

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

Measure Availability

Source available from the MN Community Measurement Web site .

For more information, contact MN Community Measurement at 3433 Broadway St. NE, Broadway Place East, Suite #455, Minneapolis, MN 55413; Phone: 612-455-2911; Web site: http://mncm.org ; E-mail: info@mncm.org.

NQMC Status

This NQMC summary was completed by ECRI Institute on December 4, 2015. The information was verified by the measure developer on February 16, 2016.

Copyright Statement

Production

Source(s)

MN Community Measurement. Data collection guide: spinal surgery: functional status and quality of life outcome measures 2015 (01/01/2013 to 12/31/2013 dates of procedure). Minneapolis (MN): MN Community Measurement; 2015. 132 p.

Disclaimer

NQMC Disclaimer

solely to determine that they meet the NQMC Inclusion Criteria.

NQMC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or its reliability and/or validity of the quality measures and related materials represented on this site. Moreover, the views and opinions of developers or authors of measures represented on this site do not necessarily state or reflect those of NQMC, AHRQ, or its contractor, ECRI Institute, and inclusion or hosting of measures in NQMC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding measure content are directed to contact the measure developer.